5. (Reiterated) A method of treating a subject with a condition associated with altered hjak2 expression comprising administering an effective amount of the pharmaceutical composition of Claim 4 to the subject.

14. (Reiterated) A method of treating a subject with a condition associated with altered HJAK2 expression comprising administering an effective amount of the pharmaceutical composition of Claim 13 to the subject.

15. (Reiterated) An antibody specific for the purified polypeptide of Claim 11, or portion thereof.

16. (Reiterated) A diagnostic composition comprising the antibody of Claim 15.

17. (Reiterated) A diagnostic test for a condition associated with altered HJAK2 expression comprising the steps of:

a) providing a biological sample;

b) combining the biological sample and the antibody of Claim 15 under conditions suitable for complex formation;

c) measuring the amount of complex formation between HJAK2 and the antibody to obtain a sample amount; and

d) comparing the amount of complex formation in the sample with standard amounts of complex formation, wherein a variation between the sample amount and standard amounts of complex formation establishes the presence of the condition.

18. (Reiterated) A method of screening a plurality of compounds for specific binding affinity with the polypeptide of Claim 11 or any portion thereof comprising the steps of:

a) providing a plurality of compounds;

b) combining HJAK2 with each of a plurality of compounds for a time sufficient to allow binding under suitable conditions; and

c) detecting binding of HJAK2 to each of the plurality of compounds, thereby identifying

the compounds which specifically bind HJAK2.

19. (Once Amended) A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide encoding a polypeptide comprising an amino acid sequence selected from the group consisting of:

a) an amino acid sequence of SEQ ID NO:2,

b) a naturally occurring amino acid sequence having at least 95% [90%] sequence identity to an amino acid sequence of SEQ ID NO:2 over the entire length of SEQ ID NO:2, and

c) a [biologically active] fragment of an amino acid sequence of SEQ ID NO:2, wherein said fragment has kinase activity. [, and

d) an immunogenic fragment of an amino acid sequence of SEQ ID NO:2.]

20. (Reiterated) A cell transformed with a recombinant polynucleotide of claim 19.

21. (Reiterated) A transgenic organism comprising a polynucleotide of claim 19.

22. (Once Amended) A method for producing a polypeptide comprising an amino acid sequence selected from the group consisting of an amino acid sequence of SEQ ID NO:2, a naturally occurring amino acid sequence having at least 95% [90%] sequence identity to an amino acid sequence of SEQ ID NO:2 over the entire length of SEQ ID NO:2, and a [, a biologically active] fragment of an amino acid sequence of SEQ ID NO:2, wherein said fragment has kinase activity, [and an immunogenic fragment of an amino acid sequence of SEQ ID NO:2,] the method comprising:

a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with the recombinant polynucleotide of claim 19, and

b) recovering the polypeptide so expressed.

23. (Once Amended) A method for detecting a target polynucleotide in a sample, said target polynucleotide comprising a polynucleotide sequence selected from the group consisting of a polynucleotide sequence of SEQ ID NO:1, a naturally occurring polynucleotide sequence

having at least 90% sequence identity to a polynucleotide sequence of SEQ ID NO:1, a polynucleotide sequence complementary to a polynucleotide sequence of SEQ ID NO:1, and a polynucleotide sequence complementary to a naturally occurring polynucleotide sequence having at least 90% sequence identity to a polynucleotide sequence of SEQ ID NO:1, the method comprising:

a) hybridizing the sample with a probe comprising at least 16 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

24. (Reiterated) A method of claim 23, wherein the probe comprises at least 30 contiguous nucleotides.

25. (Reiterated) A method of claim 23, wherein the probe comprises at least 60 contiguous nucleotides.

26. (Reiterated) A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of SEQ ID NO:1, the method comprising:

a) exposing a sample comprising the target polynucleotide to a compound, and

b) detecting altered expression of the target polynucleotide.

27. (Reiterated) A method for detecting a target polynucleotide, the method comprising the steps of:

(a) hybridizing a polynucleotide complementary to a polynucleotide encoding the polypeptide comprising an amino acid sequence of SEQ ID NO:2 to at least one nucleic acid in a sample, thereby forming a hybridization complex; and